

*SPECIFICATION AMENDMENTS*

Replace the paragraph beginning at page 1, line 20 with:

The variable capacitance element can be implemented using a PN junction in a bipolar transistor, for example. In other words, it can be implemented by using a capacitance variation provided by applying a voltage to the PN junction between the base and the collector of the bipolar transistor. Japanese Patent Laid-Open Publication No. 2002-223127, corresponding to U.S. patent publication 2002/0093377 (see PP. 5, 9-10, Figs. 6 and 9, etc.) discloses a power amplification circuit using a capacitive component of a PN junction in a bipolar transistor.

Replace the paragraph beginning at page 2, line 5 with:

When an oscillation frequency is designed ~~so as~~ to be high in a voltage controlled oscillating circuit in which a variable capacitance element is implemented using such a bipolar transistor, ~~a~~ the collector layer must be ~~thinned~~ made thinner in order to increase ~~a~~ the maximum oscillation frequency of the bipolar transistor. In order to obtain a sufficient capacitance when the collector layer is ~~thinned~~ made thinner, ~~a~~ forward bias must be applied to the variable capacitance element using the PN junction between the base and the collector.

Replace the paragraph beginning at page 2, line 15 with:

However, when the forward bias is applied to the PN junction between the base and the collector, ~~a~~ relatively large current flows, and thus current consumption is increased. Furthermore, because the current flows in the variable capacitance element, ~~a~~ noise is generated ~~to degrade~~ ~~a~~ and degrades the noise characteristic of the voltage controlled oscillating circuit.

Replace the paragraph beginning at page 7, line 21 with:

Fig. 2A illustrates a configuration of a bipolar transistor which provides the variable capacitance element 30. Fig. 2B illustrates the bipolar transistor 20 viewed from the above. It is noted that Fig. 2A is a cross sectional view taken along line ~~A-A'~~ IIA-IIA in Fig. 2B.

Replace the paragraph beginning at page 12, line 2 with:

Fig. 6A is a cross sectional view showing a bipolar transistor 21 implementing the variable capacitance element 31. Fig. 6B illustrates the bipolar transistor 21 viewed from the above. Fig. 6A is a cross sectional view taken along line ~~B-B'~~ VIA-VIA in Fig. 6B.

Replace the paragraph beginning at page 14, line 13 with:

Fig. 8A illustrates another configuration of a bipolar transistor constituting a variable capacitance element. Fig. 8B illustrates the bipolar transistor 22 viewed from the above. Fig. 8A is a cross sectional view taken along line ~~C-C'~~ VIIIA-VIIIA in Fig. 8B. According to the present embodiment, in order to increase a variation range of the capacitance between the emitter and the collector of the variable capacitance element of the first embodiment, a junction area ( $S_2$ ) of a PN junction between the emitter and the base is made ~~so as to be~~ larger than a junction area ( $S_1$ ) of a PN junction between the base and the collector.

In re Appln. of SUZUKI et al.  
Application No. Unassigned

*AMENDMENTS TO THE DRAWINGS*

The attached sheets include changes to Figs. 2B, 6B, and 8B. These sheets replace the original sheets including Figs. 2B, 6B, and 8B. The Amendments conform the section lines indicators to U.S. practice.

Attachment: Replacement Sheet(s)